

CENTRAL VALLEY WATER BOARD STAFF SURVEY WRITE-UP

City of Biggs

Wastewater Treatment Plant, Butte County

MUN Beneficial Use Project

21 March 2012

On 21 March 2012, Anne Littlejohn and Calvin Yang conducted a site visit of the City of Biggs Wastewater Treatment Plant's receiving water bodies and the downstream area. The purpose of this trip was to conduct a field survey and reconnaissance for potential monitoring locations. Mr. Steven Speights with the City of Biggs participated in the site visit near the treatment plant and Mr. Charles Nuchols, Reclamation District 833 Manager, participated in the site visit to the areas downstream.

The City of Biggs Wastewater Treatment Plant is located on the southwest side of the City of Biggs in Butte County. The treatment plant's effluent is released into Lateral K which flows downstream to the Main Canal, the Cherokee Canal and then eventually to Butte Creek. Water from these receiving water bodies may be distributed throughout Reclamation District 833 and portions of Reclamation District 1004 where water from the Cherokee Canal goes to various Duck Clubs east of Butte Creek.

The morning of the visit was partly cloudy and breezy. In general, all of the channels had higher and more turbid flow due to recent rains as compared to what was seen by stakeholders prior to the rain events starting on March 13, 2012. Many of the surrounding parcels produce rice, but there are also a number of orchards to the east of Biggs. No irrigation was taking place due to the time of year.

The first site was the effluent discharge point from the treatment plant. Photo 1 shows the effluent leaving the plant to Lateral K. Photos 2-3 show the RSW-001 upstream site on Lateral K, looking upstream and downstream, respectively. Photo 4 shows the RSW-002 downstream site on Lateral K, looking upstream.

Lateral K flows south to the Main Canal. Photo 5 shows the confluence of Lateral K with the Main Canal. Immediately downstream, there is a Biggs-West Gridley Water District supply channel that runs over the Main Canal. Photo 6 shows the supply canal spilling to the Main Canal. Photo 7 is another view of the supply channel showing that it is relatively low and not supplying water to fields yet.

The Main Canal flows southwest towards the Cherokee Canal (Reclamation District 833's Lateral A). The next site was the Main Canal at Farris Road. Photos 8-9 show the canal at Farris Road, facing upstream and downstream, respectively. Photo 10 shows the "Big Dam" on the Main Canal along Farris Road. The Biggs-West Gridley Water District uses this dam around April 1st every year to provide water for the surrounding farmland.

Photos 11-12 show the Main Canal at the Colusa highway, looking upstream and downstream, respectively. Photo 13 shows the pump station located on the Main Canal at the Colusa Highway operated by the Biggs-West Gridley Water District. Mr. Nuchols pointed out a sampling station that was installed a number of years ago. He was not sure who was operating the unit, but thought it was connected to University of California, Davis. Photo 14 shows the sampling area where poles can be seen entering the canal for sampling equipment. Staff from the Central Valley Water Board will research to see who this sampling unit belongs to and obtain water quality data if possible. At the Colusa Highway, the Main Canal is receiving water from irrigation as well as urban runoff from both the City of Biggs and the City of Gridley.

Traveling further southwest, the next stop was at the Lateral C-1, on the northern border of the Grey Lodge Wildlife Preserve. There are gates that control the water flow through the preserve from the Main Canal. As shown in Photo 15, one of the gates seems to be part way open. Garry Laughlin (engineer for Reclamation District 833) owns the Duck Club property to the southwest of the canal and he stated earlier in the day at the stakeholder meeting that the gates have not been open for years. Central Valley Water Board Staff will need to clarify the use of this lateral. Just downstream from the C-1 channel, there is a large weir on the Main Canal, as shown in in Photo 16.

It was not possible to continue traveling along the Main Canal to its confluence with the Cherokee Canal. There was an access site to the Cherokee Canal, upstream of its confluence with the Main Canal at the Colusa Highway. This is also a sampling spot for the Irrigated Lands Regulatory Program. Staff will research what type of data is available for this location. Photos 17-18 show the Cherokee Canal at the Colusa Highway facing upstream and downstream, respectively.

Central Valley Water Board Staff was not able to access any areas downstream on the Cherokee Canal because it flows into areas belonging to private Duck Clubs (Photo 19). Staff will follow-up with the appropriate contacts to determine accessibility to those locations.

Field measurements and GPS coordinates for the sites visited are summarized in Table 1.

Photo 1. Effluent leaving the City of Biggs treatment plant into Lateral K



Photo 2. Lateral K, upstream site RSW-001, facing upstream



Photo 3. Lateral K, upstream site RSW-001, facing downstream



Photo 4. Lateral K, downstream site RSW-002, facing upstream



Photo 5. Main Canal at confluence with Lateral K



Photo 6. Biggs-West Gridley Water District Supply Channel spilling over to Main Canal



Photo 7. Biggs-West Gridley Water District Supply Channel



Photo 8. Main Canal at Farris Road, looking upstream



Photo 9. Main Canal at Farris Road, looking downstream



Photo 10. The “Big Dam” on the Main Canal at Farris Road



Photo 11. Main Canal at Colusa Highway, looking upstream



Photo 12. Main Canal at Colusa Highway, looking downstream



Photo 13. Pump structure on the Main Canal at the Colusa Highway



Photo 14. Sampling station set up along Colusa Highway Bridge in the Main Canal



Photo 15. Lateral C-1 looking downstream towards the Gray Lodge Wildlife Preserve



Photo 16. Weir on Main Canal directly downstream from the confluence with the C-1 channel



Photo 17. Cherokee Canal at Colusa Highway, looking upstream



Photo 18. Cherokee Canal at Colusa Highway, looking downstream



Photo 19. Private Property signs - restricted access to Cherokee Canal



Table 1. GPS coordinates and General Field parameters

Site Description	Latitude	Longitude	Water Temp. °C	pH	DO (mg/L)	SC (µS/cm)
Lateral K at RSW-001, upstream to effluent discharge	39.40886	-121.72531	16.78	7.91	10.56	226
Lateral K at RSW-002, downstream of effluent discharge	39.40687	-121.72534	15.24	7.79	9.62	546
Main Canal downstream of WWTP at Farris Road	39.39917	-121.75617	18.86	7.70	8.39	491
Main Canal at Colusa Highway	39.36219	-121.82430	-	-	-	-
Main Canal at Weir	39.34875	-121.83634	-	-	-	-
Cherokee Canal at Colusa Highway	39.36237	-121.86738	15.4	7.66	10.13	166